TOPIC: PROPOSAL TO OFFER A MASTER OF SCIENCE AND A

DOCTOR OF PHILOSOPHY IN MATERIALS SCIENCE AND ENGINEERING AT UNIVERSITY OF COLORADO BOULDER

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FOR ACADEMIC AFFAIRS

I. SUMMARY

This consent item recommends approval for University of Colorado Boulder (UCB) to offer a Doctor of Philosophy (Ph.D.) and Master of Science (M.S.) in Materials Science and Engineering.

II. BACKGROUND

The following is summarized from UCB's proposal:

Advances in new technologies to solve the grand challenges facing society depend on the discovery, development and analysis of new materials. While the development of new materials often involves several disciplines, materials scientists and engineers are specially educated to discover, analyze, understand and engineer new materials. The materials science and engineering program will be an interdisciplinary Ph.D. and M.S. program aimed at providing a rigorous education in materials science and engineering and the fundamental physics, engineering, chemistry, and biology that underlie this discipline. Besides being more cost-effective, this approach will provide a more comprehensive education and training for students, preparing them for the interdisciplinary fields that employ materials scientists and engineers. Five engineering departments and three science departments have committed to help offer the proposed degrees.

ROLE AND MISSION SUPPORT

This degree supports UCB's statutory role and mission, which states in part:

(a) ... The Boulder campus of the university of Colorado shall offer a comprehensive array of undergraduate, master's, and doctoral degree programs. §23-20-101(1), C.R.S.

EVIDENCE OF NEED

Workforce demand for Ph.D. and M.S. students produced by the materials science program is high and expected to grow. Current demand as measured by a search of "materials science engineer" in the Denver area is high relative to the number of materials science graduates produced by instate programs. Additionally, job growth in the materials sciences is expected to significantly outpace demand in the chemical sciences according to the U.S. Bureau of Labor Statistics.

Student demand for this program will be high, providing the program with the estimated enrollment while maintaining our goals of accepting and matriculating high caliber students. Although the University of Colorado Boulder does not have a Department of Materials Science and Engineering, students interested in materials science apply to other departments that conduct materials research. Consequently, in the current format and absent a Materials Science and Engineering degree, we often have difficulty persuading outstanding students to accept our offers of admission to these discipline specific majors.

DUPLICATION

Colorado School of Mines (CSM) offers graduate degrees in materials science, though the proposed program will, in several ways, be unique to the one offered by CSM.

III. STAFF ANALYSIS

Pursuant to Colorado Revised Statutes 23-5-129(6)(b), department staff finds that UCB's proposed Ph.D. and M.S. degrees in Materials Science and Engineering are consistent with the institution's statutory role and mission.

IV. STAFF RECOMMENDATION

Staff recommends that the Commission approves University of Colorado Boulder's proposal to offer a Master of Science and a Doctor of Philosophy in Materials Science and Engineering.

V. SUPPLEMENTAL INFORMATION

Copies of all relevant materials are on file in the Academic Affairs Division and are available upon request.

Colorado Commission on Higher Education (CCHE) March 1, 2013

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STATUTORY AUTHORITY C.R.S. §23-5-129